

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT



(PCT Article 36 and Rule 70)

Applicant's or Agent's file reference PCT 334	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DE 03/04112	International filing date (day/month/year) 12.12.2003	Priority date (day/month/year) 13.12.2002
International Patent Classification (IPC) or national classification and IPC B30B15/28		
Applicant METSO LINDEMANN GMBH		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets including this title page.
- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Instruction 607 of Administrative Instructions of the PCT).

These annexes consist of a total of 11 sheets.

3. This report contains indications relating to the following items:
- I ☒ Basis of the report
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement according to Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☒ Certain defects in the international application
 - VIII ☒ Certain observations on the international application

Date of submission of the demand 12.07.2004	Date of completion of this report 05.04.2005
Name and mailing address of the IPEA  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Netherlands Tel. +31 70 340-2040 Tx: 31 651 epo nl Fax: +31 70 340-3016	Authorized officer: Belibel, C Tel. +31 70 340-3215 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/DE 03/04112

I. Basis of the report

1. This report has been drawn up on the basis of the following elements (*the replacement sheets received by the receiving office in response to an invitation according to Article 14 are considered in the present report as "originally filed" and are not annexed to the report as they contain no amendments (Rules 70.16 and 70.17).*):

Description, pages:

1-7 received on 25.02.2005 with the letter of 22.02.2005

Claims, No.:

1-9 received on 25.02.2005 with the letter of 22.02.2005

Drawings, sheets:

2/2 as originally filed

1/2 received on 25.02.2005 with the letter of 22.02.2005

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

☐ the description, pages:

☐ the claims, Nos.:

☐ the drawings, sheets:

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5. ☐ This report has been written disregarding (some of) the amendments, which were considered as going beyond the description of the invention, as filed, as is indicated below (Rule 70.2(c)):

(All replacement sheets comprising amendments of this nature should be indicated in point 1 and attached to this report)..

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-9
	No:	Claims	
Inventive Step (IS)	Yes:	Claims	1-9
	No:	Claims	
Industrial Applicability (IA)	Yes:	Claims	1-9
	No:	Claims	

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations in the international application

The following observations on the clarity of the claims, descriptions, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

INTERNATIONAL PRELIMINARY

International application No. PCT/DE 03/04112

EXAMINATION REPORT - SEPARATE SHEET

Re: Point V.

Reasoned statement with regard to novelty, inventive step and commercial applicability; documents and explanations to support this statement

1. In the present communication, reference is made to the following documents:

D1: DE-A-19804789 A (SVEDLANA LINDEMANN GMBH) August 12, 1999 (1999-08-12)

D2: US-A-5094107 (SCHOCH DANIEL A) March 10, 1992 (1992-03-10)

2. Document D1 discloses a method for monitoring the operating condition of a multidimensionally acting hydraulic press, comprising both

- at least one step which can be registered by measurement in terms of time and also distance for the compaction of the material put in in a press case,
- a step which can be registered by measurement in terms of time and also distance for the ejection of the finished pack or pressed object,
- and a controller for carrying out these steps by means of a drive system producing a hydraulic pressure,
- registration of amplitudes of the state of oscillation of the press and predefinition of at least one permissible oscillation amplitude as a reference value for the control of the press, according to the preamble of claim 1.

- 2.2 The subject matter of claim 1 therefore differs from the known method in that it comprises the following steps according to the defining part of claim 1:

- registration of the amplitudes of oscillations

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during the time or a distance of a relative movement taking place between at least one compactor and/or machine element such as a door and the press case in the cycle from the start until the end of the pressing operation, and ejection of the pressed object and predefinition of a permissible oscillation amplitude of the entire press within the controller as a "normal condition" for time or distance increments of relative movements,

- measurement of the oscillation amplitudes only during the movement of at least one of the piston/cylinder unit acted on by a hydraulic drive system,
- generation of an "alarm value" with a magnitude which is above the maximum value in the "normal condition", and generation of a "shut-off value" with a magnitude which is above the "alarm value",
- automatic switch-off of the operation of the press when the "alarm value" and/or the "shut-off value" is reached,
- entry of both limiting values from "alarm value" and "shut-off value" for each relevant relative movement or for each time or distance increment of the relative movement into the controller of the press,
- operation of the press by means of the controller with indication of a signal when the "alarm value" is reached and/or the "shut-off value" is reached during the cycle from the start until the end of the pressing operation or the relevant relative movement, and
- the use of an integrated program for the controller of the press, the program comprising the steps of

- a learning phase with recording of the maximum oscillation amplitude during the various relative movements belonging to the pressing cycle or the relative movement increments,
- automatic generation of alarm and shut-off values,
- an active phase with registration of the measured values of the oscillation amplitudes during the pressing operation and continuous comparison with the respective alarm and shut-off values belonging to the distance or time increment,
- automatic triggering of appropriate actions if alarm and shut-off values are exceeded.

2.3 **The subject matter of claim 1 is thus novel** (Article 33(2)).

2.4 The object on which claim 1 is based is to increase the operational reliability, in particular the reliability with respect to damage to the press, cf. page 4, lines 2-6.

2.5 The solution proposed for the object in claim 1 of the present application is based on an **inventive step** (Article 33(3) PCT) for the following reason.

Although a method for monitoring the operating condition of a press is already disclosed by document D2, cf. column 7, lines 29-40, this document does not disclose the combination of features mentioned in paragraph 2.2. Therefore, there is no reason for those skilled in the art to come to the solution proposed by claim 1.

3. Claims 2-9 depend on claim 1 and therefore likewise fulfill the requirements of the PCT in relation to novelty and inventive step.
4. Claims 2-9 fulfill the requirements of Article 33(4) PCT.
5. The changes filed with a letter dated February 22, 2005 introduce facts which go beyond the disclosure content of the international application at the time of the application, in contravention of Article 34(2)(b) PCT. These are changes in the description, page 2, line 30 - page 3, line 34. References to the prior art which are incorporated in the description after the application date must be restricted to a pure reproduction of the facts, cf. PCT Guidelines A4.05.